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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,920	01/09/2006	Michael R Smith	0837RF-H547-US	9046

38441 7590 10/21/2010

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EXAMINER	
BURCH, MELODY M	

ART UNIT	PAPER NUMBER
3657	

NOTIFICATION DATE	DELIVERY MODE
10/21/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JIM@WALTONPLLC.COM

Office Action Summary	Application No.	Applicant(s)	
	10/528,920	SMITH ET AL.	
	Examiner	Art Unit	
	Melody M. Burch	3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3/25/10 & 7/26/10*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,7-10,13-16,18-21,23-30,32 and 38-44* is/are pending in the application.

4a) Of the above claim(s) *4* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7-10,13-16,18-21,23-30,32 and 38-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/16/10*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species 16 Group I in the reply filed on 7/26/10, respectively, is acknowledged.

2. Claim 4 has been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/26/10.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

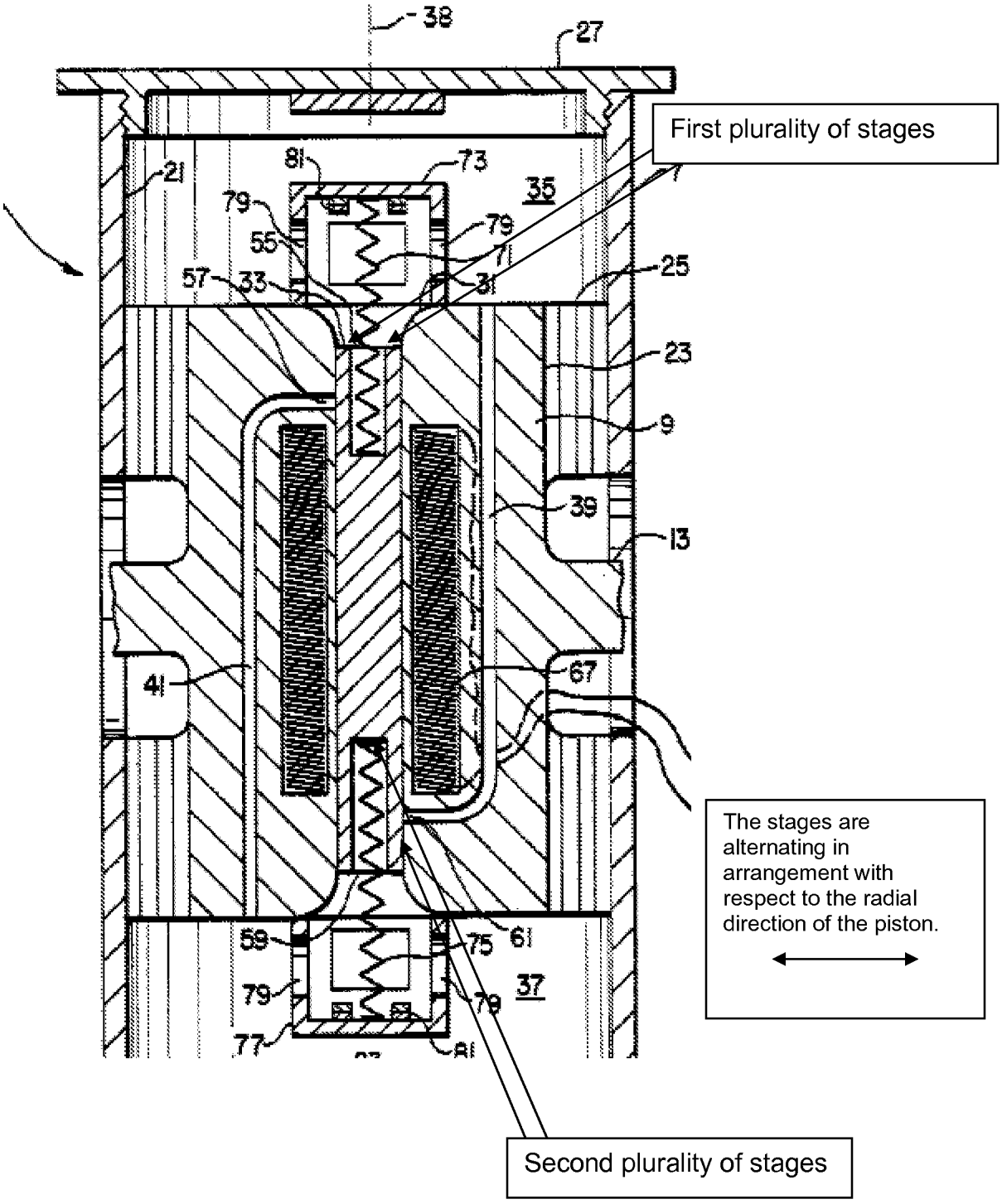
> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 7, 25, 27, 28, and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5439082 to McKeown et al.

Re: claims 1-3 and 41. McKeown et al. show in figure 4 a vibration isolator comprising a housing 7,27,29, a piston resiliently disposed within housing, the piston being adapted for connection to a first body, a first fluid chamber 35 and a second fluid chamber 37 defined by the housing and the piston, a tuning port 31 placing the first fluid chamber and the second fluid chamber in fluid communication, a tuning mass or fluid and element 33 disposed within the tuning port, and at least one actuator 67, 69 coupled to the piston for selectively transferring forces to the piston.

Re: claim 7. McKeown et al. show in figure 4 the tuning port being exterior to a portion 27 of the housing to the same extent that the tuning port 1419 is exterior to a portion 1431 of the housing of the instant invention.

Re: claims 25, 27, and 28. McKeown et al. show in figure 4 a vibration isolator comprising: a housing 7, 27, 29, a first piston 9 (this is the second piston in the rejection of claim 28) resiliently disposed within the housing, the first piston being adapted for connection to a vibrating body, a second multistage piston 33 (this is the first piston in the rejection of claim 28) resiliently disposed within the housing by way of its connection to resiliently disposed first piston 9, the second multistage piston being configured to define a plurality of stages in fluid communication with a first fluid chamber, and a second plurality of stages in fluid communication with a second fluid chamber as labeled, at least one actuator 67,69 coupled to the second multistage piston for selectively transferring forces to the second multistage piston, a first fluid chamber 35 and a second fluid chamber 37, each being defined by the housing, the first piston, and the second multistage piston, at least one tuning port 31 in fluid communication with both the first fluid chamber and the second fluid chamber and a tuning fluid disposed within the first fluid chamber, the second fluid chamber, and the tuning port. See next page.


38
27
First plurality of stages
81
73
21
35
79
55
79
71
57
33
31
25
23
9
39
13
41
67
59
75
61
79
37
79
77
81
The stages are alternating in arrangement with respect to the radial direction of the piston.
Second plurality of stages

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKeown et al. in view of EP-0537927 (EP'927).

McKeown et al. are silent with regards to the tuning port being integrated into the wall of the housing.

EP'927 teaches in figure 1 a vibration isolator including a tuning port 22 that is integrated into the wall of a housing 12.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified a tuning port of McKeown et al. to have been a tuning port that is integrated into the wall of the housing, in view of the teachings of EP'927, in order to provide an alternate, well-known means of placing the first and second fluid chambers in communication with each other and means for varying the degree of isolation.

7. Claims 9, 26, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKeown et al. in view of US Patent 5906254 to Schmidt et al.

McKeown et al. are silent with regards to the actuator being a piezoelectric actuator.

Schmidt et al. teach in col. 8 lines 49-53 a vibration isolator replacing the use of a magnetically actuated actuator to exert force on a floating mass with a piezoelectric actuator.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the magnetically actuated actuator of McKeown et al., to have included a piezoelectric actuator, as taught by Schmidt et al., in order to provide a functionally equivalent means of exerting a force on the floating mass.

8. Claims 10, 13, 15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKeown et al. in view of US Patent 5458222 to Pla et al.

Re: claims 10 and 19. McKeown et al. show in figure 4 a vibration isolator comprising: a housing 7, 27, 29, a first piston 9 resiliently disposed within the housing, the first piston being adapted for connection to a vibrating body, a second piston 33 resiliently disposed within the housing by way of its connection to resiliently disposed first piston 9, at least one actuator 67,69 coupled to the second piston for selectively transferring forces to thee second piston, a first fluid chamber 35 and a second fluid chamber 37, each being defined by the housing, the first piston, and the second piston, a tuning port 31 in fluid communication with both the first fluid chamber and the second fluid chamber and a tuning fluid disposed within the first fluid chamber, the second fluid chamber, and the tuning port.

McKeown et al. are silent with regards to the actuator being a piezoceramic actuator.

Pla et al. teach an active vibration control unit employing a piezoceramic actuator 22.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the actuator of McKeown et al. to have included a piezoceramic actuator, as taught by Pla et al., in order to provide a functionally equivalent means of exerting a force on the floating mass.

Re: claim 13. McKeown et al., as modified, teach in figure 4 of McKeown et al. the limitation wherein the tuning port is exterior to portion 27 of the housing to the same extent that the tuning port 1419 is exterior to a portion 1431 of the housing of the instant invention.

Re: claims 15, 17, and 18. In an alternate interpretation of McKeown et al. the at least one tuning port in fluid communication with both the first and second fluid chambers is element 39 and the isolator further comprises: a second tuning port 31 in fluid communication with both the first and second fluid chambers, a means 33, 71, 75 associated with the second tuning port for providing an additional degree of freedom wherein vibrations at two different frequencies are isolated.

Re: claim 20. McKeown et al. show in figure 4 a base portion 29 adapted for connection to a first body, a housing 7, 27, a tuning mass 33 resiliently carried within the housing by way of resiliently carried element 9, at least one actuator 67, 69 disposed

between the base portion and the housing for selectively transferring forces to the housing.

McKeown et al. are silent with regards to the actuator being a piezoceramic actuator.

Pla et al. teach an active vibration control unit employing a piezoceramic actuator 22.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the actuator of McKeown et al. to have included a piezoceramic actuator, as taught by Pla et al., in order to provide a functionally equivalent means of exerting a force on the floating mass.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over McKeown et al. in view of US Patent 5458222 to Pla et al. as applied to claim 10 above, and further in view of EP'927.

McKeown et al., as modified, are silent with regards to the tuning port being integrated into the wall of the housing.

EP'927 teaches in figure 1 a vibration isolator including a tuning port 22 that is integrated into the wall of a housing 12.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified a tuning port of McKeown et al., as modified, to have been a tuning port that is integrated into the wall of the housing, in view of the teachings of EP'927, in order to provide an alternate, well-known means of placing the

first and second fluid chambers in communication with each other and means for varying the degree of isolation.

10. Claims 16, 21, 23-24, 29, 30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKeown et al. in view of US Patent 5458222 to Pla et al. as applied to claim 10 above, and further in view of US Patent 5520375 to Leibach et al.

Re: claims 16, 21, and 23. McKeown et al., as modified, are silent with regards to the vibrations being harmonic.

Leibach et al. teach in col. 5 line 65 – col. 6 line 2 the use of a vibration canceler allowing the isolation of harmonic vibrations.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the vibrations of McKeown et al., as modified, to have been harmonic, in view of the teachings of Leibach et al., in order to provide a means of eliminating imbalance associated with vibrations of a rotating device. See the rejections of claims 10, 15, 17, and 18 with respect to claims 21, 22, and 23.

Re: claims 29, 30, and 32. See the rejection of claim 10, but McKeown et al. are silent with regards to the vibration isolator being used with respect to a rotating machinery.

Leibach et al. teach in col. 6 lines 1-2 the use of a vibration isolator used with respect to a rotating machinery.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the vibration isolator of McKeown et al., as

modified, to have been utilized with respect to a rotating machinery, as taught by Leibach et al., in order to provide a means of preventing imbalance.

In *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) the court held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

11. Claims 21, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKeown et al. in view of US Patent 5520375 to Leibach et al.

Re: claims 21, 23, and 24. McKeown et al., as modified, are silent with regards to the vibrations being harmonic.

Leibach et al. teach in col. 5 line 65 – col. 6 line 2 the use of a vibration canceler allowing the isolation of harmonic vibrations.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the vibrations of McKeown et al., as modified, to have been harmonic, in view of the teachings of Leibach et al., in order to provide a means of eliminating imbalance associated with vibrations of a rotating device. See the rejections of claims 10, 15, 17, and 18 with respect to claims 21, 22, and 23.

In *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) the court held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

12. Claims 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKeown et al. in view of US Patent 4723085 to Mukohjima et al.

Mckeown et al. describe the invention substantially as set forth in the rejection of claim 41, but is silent with regards to the solid-state actuator.

Mukohjima et al. teach in col. 1 lines 9-15 the use of a solid-state actuator in the form of an actuator in the form of an electrostrictive or magnetorestrictive material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the actuator of McKeown et al. to have been a solid state actuator for example an electrostrictive or magnetorestrictive material, in view of the teachings of Mukohjima et al., in order to provide a means of actively cancelling vibrations to achieve isolation.

13. Claims 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKeown et al. in view of US Patent 6389941 to Michler.

McKeown et al. are silent with regards to the particular actuators.

Michler teaches in col. 10 lines 11-14 and in the last two lines of the abstract the use of a vibration isolator incorporating one of an electromagnetic actuator, pneumatic or hydraulic actuator.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the actuator of McKeown et al. to have been an electromagnetic actuator, pneumatic or hydraulic actuator, in view of the teachings of Michler, in order to provide a means of actively cancelling vibrations to achieve isolation.

Response to Arguments

14. Applicant's arguments filed 3/25/10 have been fully considered but they are not persuasive. Applicant argues that the McKeown reference includes a slug made out of magnetic material. Examiner notes that the argument is more specific than the claim language and does not preclude the McKeown reference from reading on claim 1 as broadly recited. With regards to claim 2, Applicant argues that claim 2 includes the tuning mass as a fluid. Examiner notes that in claim 1 of McKeown the tuning system is recited as including fluid. With respect to claim 7 Applicant argues that the tuning port is not exterior to the housing. Examiner notes that the tuning port is exterior to a portion of the housing similar to the way in which tuning port 1419 of the instant invention is exterior to a portion of the housing. With regards to claims 25 and 27 Applicant argues that the piston cannot be considered multistage because it has a completely different functionality. Examiner maintains that a difference in functionality does not necessarily preclude multistage operation. Applicant must particularly point out errors in the rejection in order to provide a proper rebuttal. With respect to the 103 rejections, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). For example, to argue that Schmidt disclose a vibration absorber that can possibly integrate an actuator to exert a force between the masses is not a proper argument since Schmidt is relied upon solely for the teaching of the use of an actuator in the form of a

piezoelectric actuator. A similar response exists with respect to the use of the Pla reference. Accordingly, the rejections have been maintained.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 571-272-7114. The examiner can normally be reached on Monday-Friday (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mmb
October 12, 2010

/Melody M. Burch/
Primary Examiner, Art Unit 3657